USGS

WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003TX93B

Title: Relating Nutrient Imports to Exports and Losses During Sod Production

Project Type: Research

Focus Categories: Water Quality, Treatment, Non Point Pollution

Keywords: water quality, composted dairy manure, turfgrass sod, soil properties, nutrient export

Start Date: 03/01/2003

End Date: 2/28/2004

Federal Funds Requested: $4182.00

Matching Funds: $11100.00

Congressional District: 8

Principal Investigators: McDonald, Brandon; Vietor, Don

Abstract: Several efforts are now underway to determine the extent to which using dairy manure to produce turfgrass sod may improve the water quality in the Bosque River watershed of Central Texas. In general, the idea is that removing dairy manure will likely lessen runoff nonpoint pollution while providing nutrient and phosphorus inputs needed to grow turfgrass. Once the turfgrass is grown, it will be marketed to urban areas in Dallas, Fort Worth, and other sites. The intent of this study is to quantify runoff and leaching losses of nitrogen and phosphorus from fields where Tifway Bermudagrass is grown. The fields will be instrumented with surface runoff collection systems and flow meters to gather data on water quality and water quantity associated with runoff from these plots. Later, this information will be used to develop a geographic information system and use of the Soil Water Assessment Tool (SWAT) to model the effects of turfgrass production with dairy manure on water quality in the Bosque watershed. This work is supported by the Texas turfgrass industry.

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Last Modified: Wed June 11, 2003 3:45 PM
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